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Date	October 28, 2004	Phone	Fax
To	Examiner Alan D. Diamond, Group Art Unit 1753, USPTO		703-872-9306
From	Eunhee Park	+1 212 891 3577	+1 212 310 1677
Client/Matter No.	22122878-10		
Re	Application no. 10/052,004		
Pages (w/cover)	59		

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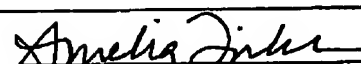
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TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	10/052,004
	Filing Date	1/7/2002
	First Named Inventor	Anthony C. Zuppero
	Art Unit	1753
	Examiner Name	Alan D. Diamond
	Attorney Docket Number	22122878-10
Total Number of Pages In This Submission		

ENCLOSURES (Check all that apply)		
<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input checked="" type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Reply to Missing Parts/Incomplete Application <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation <input type="checkbox"/> Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ <input type="checkbox"/> Landscape Table on CD	<input type="checkbox"/> After Allowance Communication to TC <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): PTO/SB08A and B forms.
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22122878-10

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

In re Application of: Anthony Zuppero et al. Art Unit: 1753
Serial No.: 10/052,004 Examiner: Alan D. Diamond
Filed: January 17, 2002 Date: October 28, 2004
Customer No: 26453 Confirmation No.: 9133
For: ELECTRON-JUMP CHEMICAL ENERGY CONVERTER

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
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INFORMATION DISCLOSURE STATEMENT**SIR:**

1. In accordance with the duty of disclosure under 37 C.F.R. § 1.56 and in conformance with the procedures of 37 C.F.R. §§ 1.97 and 1.98 and M.P.E.P. § 609, attorneys for Applicants hereby bring the following references, which are listed on the attached modified PTO Form No. 1449 to the attention of the Examiner. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.
2. Applicants respectfully request that the following co-owned patents and co-pending applications be considered and made of record in the present application:

US Patent Nos. 6,114,620 (cited on PTO-892 by the Examiner); 6,218,608 (cited on PTO-892 by the Examiner); 6,222,116 (cited on PTO-892 by the Examiner);

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Amelia Finker


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22122878-10

6,268,560 (cited on PTO-892 by the Examiner); 6,327,859 (cited on PTO-892 by the Examiner); 6,700,056 (cited on PTO-892 by the Examiner); 6,678,305 (cited on PTO-892 by the Examiner); 6,649,823 (cited on PTO-892 by the Examiner); 6,327,859 (cited in the Office Action of September 23, 2004); 6,268,560; and US Patent Application Nos. 09/682,363 (cited on PTO-892 by the Examiner); 10/218,706 (cited on PTO-892 by the Examiner); 10/185,086 (cited on PTO-892 by the Examiner); 09/631,463 (cited in the Office Action of September 23, 2004); 10/625,801 (cited in the Office Action of September 23, 2004); 10/759,341. The references cited in each of those patents and applications are listed on Form 1449 accompanying this information disclosure statement.

3. Copies of the references listed on the modified PTO form 1449 will follow under separate cover by first class mail due to their volume.
4. No fee is deemed necessary with the filing of these documents. If a fee is deemed necessary, we authorize the Commissioner of Patents and Trademarks to charge Deposit Account No.: 02-0393.

Respectfully submitted,


Eunhee Park
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New York, NY 10022
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>		Application Number	10/052,004
		Filing Date	1/17/2002
		First Named Inventor	Anthony C. Zuppero
		Art Unit	1753
		Examiner Name	Alan D. Diamond
Sheet	of	Attorney Docket Number	22122878-10

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		US- 20020070632	06-2002	Zuppero et al.	
		US- 4651324	03-1987	Prelin et al.	
		US- 5337329	08-1994	Foster, Jack	
		US- 4756000	07-1988	Macken, John A.	
		US- 5999547	12-1999	Schneider et al.	
		US- 5048042	09-1991	Moser et al.	
		US- 5587827	12-1996	Hakimi et al.	
		US- 4012301	03-1977	Rich et al.	
		US- 5470395	11-1995	Yater et al.	
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Application Number	10/052,004
Filing Date	1/17/2002
First Named Inventor	Anthony C. Zuppero
Art Unit	1753
Examiner Name	Alan D. Diamond
Attorney Docket Number	22122878-10

U.S. PATENT DOCUMENTS

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FOREIGN PATENT DOCUMENTS

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Attorney Docket Number	22122878-10

U.S. PATENT DOCUMENTS

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First Named Inventor	Anthony C. Zuppero
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Examiner Name	Alan D. Diamond
Attorney Docket Number	22122878-10

U.S. PATENT DOCUMENTS					
Examiner Initials	Cite No.	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
		US-6084173	07/04/2000	DiMatteo	
		US-			
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		HARRISON, P. et al., The Carrier Dynamics of Far-Infrared Intersubband Lasers and Tunable Emitters, Institute of Microwaves and Photonics, University of Leeds, U.K., pp. 1-64	
		WEBER, et al., X2 Electron Transfer Times in Type-II GaAs/AlAs Superlattices Due to Emission of Confined and Interface Phonons, Superlattices and Microstructures, Vol. 23, No. 2 (1998).	
		FANN, W.S. et al., Electron Thermalization in Gold, Physical Review B, Brief Reports, Vol. 46, No. 20, (1992)	
		Ultrafast Surface Dynamics Group, Time-Resolved Two-Photon Photoemission (TR-2PPE), http://www.ilp.physik.uni-essen.de/aeschlimann/2y_photo.htm	
		LEWIS et al., Vibrational Dynamics of Molecular Overlayers on Metal Surfaces, Dept. of Chemistry, University of Pennsylvania, http://lorax.chem.upenn.edu/molisurf/cucotalk/html .	
		RETTNER et al., Dynamics of the Chemisorption of O ₂ on Pt(111): Dissociation via Direct Population of a Molecularly Chemisorbed Precursor at High Incidence Kinetic Energy, The Journal of Chemical Physics, Vol. 94, Issue 2 (1991)	
		FRIEDMAN et al., SiGe/Si THz Laser Based on Transitions Between Inverted Mass Light-Hole and Heavy Hole Standards, Applied Physics Letters, Vol. 78, No. 4 (2001)	
		HARRISON et al., Population -Inversion and Gain Estimates for a Semiconductor TASER	
		HARRISON et al., Theoretical Studies of Subband Carrier Lifetimes in an Optically Pumped Three-Level-Terahertz Laser, Superlattices and Microstructures, Vol. 23, No. 2 (1998)	
		HARRISON et al., Room Temperature Population Inversion in SiGe TASER Designs, IMP, School of Electronic and Electrical Engineering, The University of Leeds	
		SUN et al., Phonon-Pumped Terahertz Gain in n-Type GaAs/AlGaAs Superlattices, Applied Physics Letters, Vol. 7; No.22 (2001)	

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Examiner Name	Alan D. Diamond
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Sheet ☐ of ☐**OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS**

Examiner Initials ¹	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	Y ²
		ALTUKHOV et al., Towards Si1-xGe Quantum-Well Resonant-State Terahertz Laser, Applied Physics Letters, Vol. 79, No. 24 (2001)	
		SUN et al., Intersubband Lasing Lifetimes of SiGe/Si and GaAs/AlGaAs Multiple Quantum Well Structures, Applied Physics Letters, Vol. 66, No. 25 (1995)	
		SUN et al., Phonon Pumped SiGe/Si Interminiband Terahertz Laser	
		SOREF et al., Terahertz Gain in a SiGe/Si Quantum Starcase Utilizing the Heavy-Hole Inverted Effective Mass, Applied Physics Letters, Vol. 79, No. 22 (2001)	
		AESCHLIMANN et al., Competing Nonradiative Channels for Hot Electron Induced Surface Photochemistry, Chemical Physics 202, 127-141 (1996)	
		AUERBACH, Daniel J., Hitting the Surface-Softly, Science, Vol. 294, pp. 2488-2489 (2001)	
		BADESCU et al., Energetics and Vibrational States for Hydrogen on Pt(111), Physical Review Letters, Vol. 88, No. 13 (2002)	
		BALANDIN et al., Effect of Phonon Confinement on the Thermoelectric Figure of Merit of Quantum Wells, Journal of Applied Physics, Vol. 84, No. 11 (1998)	
		BARTELS et al., Coherent Zone-Folded Longitudinal Acoustic Phonons in Semiconductor Superlattices: Excitation and Detection, Physical Review Letters, Vol. 82, No. 5 (1999)	
		BAUMBERG et al., Ultrafast Acoustic Phonon Ballistics in Semiconductor Heterostructures, Physical Review Letters, Vol. 78, No. 17 (1997)	
		BEDURFTIG et al., Vibrational and Structural Properties of OH Adsorbed on Pt(111), Journal of Chemical Physics, Vol. 111, No. 24 (1999)	

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Sheet <input type="text"/> of <input type="text"/>	Attorney Docket Number	22122878-10	

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS			
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		VALDEN et al., Onset of Catalytic Activity of Gold Clusters on Titania with the Appearance of Nonmetallic Properties, Science, Vol. 281 (1998)	
		BONDZIE et al., Oxygen Adsorption on Well-Defined Gold Particles on TiO ₂ (110), J. Vac. Sci. Technol. A17(4) (1999)	
		BEZANT et al., Intersubband Relaxation Lifetimes in p-GaAs/AlGaAs Quantum Wells Below the LO-Phonon Energy Measured in a Free Electron Laser Experiment, Semicond. Sci. Technol. 14 (1999)	
		BRAGO et al., Interaction of CO Molecules Adsorbed on Metal Surfaces; Vacuum 61,89-93 (2001)	
		BURGI et al., Confinement of Surface State Electrons in Fabry-Perot Resonators, Physical Review Letters, Vol. 81, No. 24 (1998)	
		BURGI et al., Probing Hot-Electron Dynamics at Surfaces with a Cold Scanning Tunneling Microscope, Physical Review Letters, Vol. 82, No. 22 (1999)	
		CHANG, Y.M., Interaction of Electron and Hole Plasma with Coherent Longitudinal Optical Phonons in GaAs, Applied Physics Letter, Vol. 80, No. 14 (2002)	
		CHANG et al., Observation of Coherent Surface Optical Phonon Oscillations by Time-Resolved Surface Second-Harmonic Generation, Physical Review Letters, Vol. 78, No. 24 (1997)	
		CHANG et al., Coherent Phonon Spectroscopy of GaAs Surfaces Using Time-Resolved Second-Harmonic Generation, Chemical Physics 251, 283-308 (2000)	
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		CHEN et al., Stimulate-Emission-Induced Enhancement of the Decay Rate of Longitudinal Optical Phonons in III-V Semiconductors; Applied Physics Letters, Vol. 80, No. 16 (2002)	

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First Named Inventor	Anthony C. Zuppero
Art Unit	1753
Examiner Name	Alan D. Diamond
Attorney Docket Number	22122878-10

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		CORCELLI et al., Vibrational Energy Pooling in CO on NaCl(100): Methods, Journal of Chemical Physics, Vol. 116, No. 18 (2002)	
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		GLAVIN et al., Generation of High-Frequency Coherent Acoustic Phonons in a Weakly Coupled Superlattice, Applied Physics Letters, Vol. 74, No. 23 (1999)	
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		HARRISON et al., The Carrier Dynamics o Far-Infrared Intersubband Lasers and Tunable Emitters, www.ee.leeds.ac.uk/homes/ph/	
		HESS et al., Hot Carrier Relaxation by Extreme Electron-LO Phonon Scattering in GaN	
		HOHLFELD et al., Electron and Lattice Dynamics Following Optical Excitation of Metals, Chemical Physics 251, pp. 237-258 (2000)	
		HUANG et al., Vibrational Promotion of Electron Transfer, Science, Vol. 290 (2000)	
		KAWAKAMI et al., Quantum-well States in Copper Thin Films, Nature, Vol. 398 (1999)	
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		KRAUSS et al., Coherent Acoustic Phonons in a Semiconductor Quantum Dot, Physical Review Letters, Vol. 79, No. 25 (1997)	
		LUGLI et al., Interaction of Electrons with Interface Phonons in GaAs/AlAs and GaAs/AlGaAs Heterostructures, Semicond. Sci. Technol. 7 (1992)	
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		PAGGEL et al., Quantum-Well States as Fabry-Perot Modes in a Thin-Film Electron Interferometer, Science, Vol. 283 (1999)	
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		SUN et al., Phonon-Pumped Terahertz Gain in n-Type GaAs/AlGaAs Superlattices, Applied Physics Letters, Vol. 78, No. 22 (2001)	
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Application Number	10/052,004
Filing Date	1/17/2002
First Named Inventor	Anthony C. Zuppero
Art Unit	1753
Examiner Name	Alan D. Diamond
Attorney Docket Number	22122878-10

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials ¹	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	Y ²
	1	WITTE et al., Low Frequency Vibrational Modes of Adsorbates, Surface Science, No. 1362 (2002)	
	2	VALDEN et al., Onset of Catalytic Activity of Gold Clusters on Titania with The Appearance of Nonmetallic Properties, Science, Vol. 281 (1998)	
	3	XU et al., Electrical Generation of Terahertz Electromagnetic Pulses by Hot-Electrons in Quantum Wells, Superlattices and Microstructures, Vol. 22, No. 1 (1997)	
	4	WANKE et al., Injectorless Quantum-Cascade Lasers, Applied Physics Letters, Vol. 78, No. 25 (2001)	
	5	ZHDANOV, Vladimir P., Nm-Sized Metal Particles on a Semiconductor Surface, Schottky Model, etc., Surface Science, SUSE 2931 (2002)	
	6	YEO et al., Calorimetric Investigation of NO and O adsorption on Pd(100) and the Influence of Preadsorbed Carbon, J. Chem. Phys. 106 (5) (1997)	
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	11	HARRISON et al., The Carrier Dynamics of Terahertz Intersubband Lasers, Some Publishing Company (1999)	

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		HARRISON et al., The Carrier Dynamics of Far-Infrared Intersubband Lasers and Tunable Emitters, www.ee.leeds.ac.uk/homes/ph/	
		HARRISON et al., Theoretical Studies of Subband Carrier Lifetimes in an Optically Pumped Three-Level Terahertz Laser, Superlattices and Microstructures, Vol. 23, No. 2 (1998)	
		HARRISON et al., Room Temperature Population Inversion in SiGe TASER Designs	
		HARRISON et al., Population-Inversion and Gain Estimates for a Semiconductor TASER,	
		SUN et al., Phonon Pumped SiGe/Si Interminiband Terahertz Laser	
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		CASASSA et al., Time-Resolved Measurements of Vibrational Relaxation of Molecules on surfaces: Hydroxyl Groups on Silica Surfaces, Journal of Vacuum Science & Technology A: Vacuum, Surfaces, and Films, Vol. 3, Issue 3 (1985)	
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		HYH et al., Methanol Oxidation of Palladium Compared to Rhodium at Ambient Pressures as Probed by Surface-Enhanced Raman and Mass Spectroscopies, Journal of Catalysis, Vol. 174 (2) (1998)	
		GUMHALTER et al., Effect of Electronic Relaxation on Covalent Adsorption Reaction Rates, Physical Review B, Vol. 30, Issue 6 (1984)	
		NOLAN et al., Surface Science, Direct Verification of a High-Translational-Energy Molecular Precursor to Oxygen Dissociation on Pd(111), Surface Science, Vol. 419 (1998)	
		PHIHAL et al., Role of Intra-Adsorbate Coulomb Correlations in Energy Transfer at Metal Surfaces, Physical Review B, Vol. 58, Issue 4 (1998)	
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		TRIPA et al., Surface-Aligned Photochemistry: Aliming Reactive Oxygen Atoms Along a Single Crystal Surface, The Journal of Chemical Physics, Vol. 112, Issue 5 (2000)	
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		DEKORSY et al., Coherent Acoustic Phonons in Semiconductor Superlattices, phys. stat. sp.; (b) 215, p 425-430 (1999)	

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Attorney Docket Number	22122878-10

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First Named Inventor	Anthony C. Zuppero
Art Unit	1753
Examiner Name	Alan D. Diamond
Attorney Docket Number	22122878-10

Sheet 1 of 1

U.S. PATENT DOCUMENTS

Examiner Initials	Cite No. ¹	Document Number Number - Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US- 4,590,507	05-20-1986	CAPASSO, et al.	
		US- 4,686,350	08-11-1987	CAPASSO, et al.	
		US- 4,849,799	07-18-1989	CAPASSO, et al.	
		US- 5,311,009	05-10-1994	CAPASSO, et al.	
		US- 6,084,173	07-04-2000	DIMATTEO	
		US- 6,232,546	05-15-2001	DIMATTEO, et al.	
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First Named Inventor	Anthony C. Zuppero
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Attorney Docket Number	22122878-10

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

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		AUERBACH, Daniel J.; "Hitting the Surface--Softly"; Science, 294, (2001), pp. 2488-2489	
		BONDZIE, V. A., et al.; "Oxygen adsorption ... gold particles ... TiO ₂ (110)"; J. Vac. Sci. Tech. A., (1999) 17, pp. 1717 and figure 3	
		BOULTER, James; "Laboratory Measurement of OH ... "; http://pearl1.lanl.gov/wsa2002/WSA2002talks.pdf	
		CHAN H.Y.H., et al.; "Methanol Oxidation On Palladium Compared To Rhodium..."; J. Catalysis v. 174(#2) pp. 191-200 (1998) (abstract and figure 1 only)	
		CHIANG, T.-C.; "Photoemission studies of quantum well states in thin films; Surf. Sci. Rpts.39 (2000) pp 181-235	
		CHUBB, D. L., et al; "Semiconductor Silicon as a Selective Emitter"; http://www.thermopv.org/TPV5-2-05-Chubb.pdf (abstract only)	
		CORCELLI, S. A., et al.; "Vibrational energy pooling in CO on NaCl(100) ... "; J. Chem. Phys.(2002) 116, pp. 8079-8092	
		DANESE, A., et al.; "Influence of the substrate electronic structure on metallic quantum well ..."; Prog. Surf. Sci., 67, (2001), pp 249-258	
		DAVIS, J. E., et al.; "Kinetics and dynamics of the dissociative chemisorption of oxygen on Ir(111)"; J. Chem. Phys. 107 (3), (1997), pp 943-952	

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First Named Inventor	Anthony C. Zuppero
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		DIEKHONER, L., et al.; "Parallel pathways in methanol... Pt(111)"; Surf. Sci. 409 (1998) pp 384-391
		DIESING, D., et al.; "Aluminum oxide tunnel junctions..."; Thin Solid Films, Vol. 342 (1-2) (1999) pp. 282-290
		DIMATTEO, R. S., et al.; "Enhanced photogeneration of carriers... vacuum gap"; Appl. Phys. Let. (2001) 79, pp. 1894-1896
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		DOGWILER, Urs, et al.; "Two-dimensional ... catalytically stabilized ... lean methane-air ..."; Combustion and Flame, (1999), 116(1,2), pp 243-258
		ECHENIQUE, P. M., et al.; "Surface-state electron dynamics in noble metals"; Prog. Surf. Sci., 67, (2001), pp 271-283
		ENDO, Makoto, et al.; "Oxidation of methanol ... on Pt(111) ..."; Surf. Sci. 441 (1999) L931-L937, Surf. Sci. Letters
		FAN, C. Y., et al.; "The oxidation of CO on RuO ₂ ..."; J. Chem. Phys. 114, (2001), pp. 10058-10062
		FANN, W.S., et al.; "Electron thermalization in gold"; Phys. Rev. B (1992) 46 pp. 13592-13595

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Attorney, Docket Number	22122878-JQ

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		GER, Adam T., et al.; "The dynamics of O2 adsorption on Pt(533)..."; J. Chem. Phys.(2000) 113, pp. 10333-10343	
		GERGEN, Brian, et al.; "Chemically Induced Electronic Excitations at Metal Surfaces"; Science, 294, (2001) pp. 2521-2523	
		GULIANTS, Elena A, et al.; "A 0.5-μm-thick polycrystalline silicon Schottky.."; Appl. Phys. Let., (2002), 80, pp. 1474-1476	
		GUMHALTER, B., et al.; "Effect of electronic relaxation ... adsorption reaction rates"; Phys. Rev. B (1984) 30 pp. 3179-3190	
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		HO, Wilson; http://www.lassp.cornell.edu/lassp_data/wilsonho.html	

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		HOHLFELD, J, et al.; "Electron and lattice dynamics ... optical excitation of metals"; Chemical Physics, 251 (2000) pp 237-258	
		HONKALA, Karolína, et al.; "Ab initio study of O2 precursor states on the Pd(111)..."; J. Chem. Phys. (2001) 115, pp. 2297-2302	
		HOU, H.; Y., et al.; "Chemical Interactions of Super-Excited Molecules on Metal Surfaces"; http://www2.chem.ucsb.edu/~wodtke/papers/dan1.pdf	
		HOU, H., et al.; "Direct multiquantum relaxation of highly vibrationally excited NO ..."; J. Chem. Phys., 110, (1999) pp 10660 - 10663	
		HUANG Y., et al.; "Observation of Vibrational Excitation and Deexcitation for NO from Au(111) ..."; Phys. Rev. Lett., 84, (2000) pp 2985 - 2988	
		HUANG, Yuhui, et al.; "Vibrational Promotion of Electron Transfer"; SCIENCE, VOL 290, 6 OCTOBER 2000, pp 111 - 113	
		IBH; "NanoLED overview"; http://www.ibh.co.uk/products/light_sources/nanoled_main.htm	
		IBH; "Red picosecond laser sources"; http://www.ibh.co.uk/products/light_sources/nanoled/heads/red_laser_heads.htm	
		IFTIMIA, Ilana, et al.; "Theory ... scattering of molecules from surface"; Phys. Rev. B (2002) 65, Article 125401	

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Application Number	10/052,004
Filing Date	1/17/2002
First Named Inventor	Anthony C. Zuppero
Art Unit	1753
Examiner Name	Alan D. Diamond
Attorney Docket Number	22122878-10

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

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		ISHIKAWA, Yasuyuki, et al.; "Energetics of H ₂ O dissociation and COads+OHads reaction .. Pt."; Surf. Sci. preprints SUSC 12830, 27 April 2002	
		JOHNSON, R. Colin; "Molecular substitution ...terahertz switch arrays"; EE Times, (04/10/00, 3:35 p.m. EST) http://www.eet.com/story/OBG20000410S0057	
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		MITSUMI, T., et al.; "Coadsorption and interactions of O and H on Pd(111)"; Surf. Sci., Article 12767, (2002)	
		MOULA, Md. Golam, et al.; "Velocity distribution of desorbing CO2 in CO oxidation on Pd(110)..."; Applied Surf. Sci., 169-170, pp 268-272 (2001)	
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		NOLAN, P. D., et al.; "Molecularly chemisorbed intermediates to oxygen adsorption on Pt ..."; J. Chem. Phys. 111, (1999), pp 3696 - 3704	
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		SHEING, H., et al.; "Schottky diode with Ag on (110) epitaxial ZnO film"; Appl. Phys. Let. (2002) 80, pp. 2132-2134	
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		SVENSSON, K., et al.; "Dipole Active Vibrational Motion in the Physisorption Well"; Phys. Rev. Lett., 78, (1997) pp 2016-2019	
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		TAYLOR, R.A., et al.; "Strong Electron-LO Phonon Scattering and Hot Carrier Relaxation in GaN"; http://www.physics.ox.ac.uk/rtaylor/images/ha249kw3.pdf	

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		TEODORBESCU, C.M., et al.; "Structure of Fe layers grown on InAs ..."; Appl. Surf. Sci., 166, (2000) pp 137-142	
		TIUSAN, C., et al.; "Quantum coherent transport versus diode-like effect in ..."; Appl. Phys. Lett. 79, (2001) pp 4231-4233	
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		WILKE, Steffen, et al.; "Theoretical investigation of water formation on Rh and Pt Surfaces"; J. Chem. Phys., 112, (2000) PP 9986 - 9995	
		WINTTERLIN, J., et al; "Atomic ...Reaction Rates ... Surface-Catalyzed ..."; Science, 278, (1997) pp. 1931 - 1934	
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		ZHDANOV, V. P., et al.; "Substrate-mediated photoinduced chemical reactions on ultrathin metal films"; Surf. Sci., V. 432 (#3) pp L599-L603, (1999)	
	2	ZHDANOV, Vladimir P.; "Nm-sized metal particles on a semiconductor surface, Schottky ..."; Surf. Sci. PROOF SUSC 2931, 20 April 2002	
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		REE, J. et al., "Dynamics of Gas-Surface Interactions: Reaction of Atomic Oxygen with Chemisorbed Hydrogen on TUNGSTEN,"	
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>		Application Number	10/052,004
		Filing Date	1/17/2002
		First Named Inventor	Anthony C. Zuppero
		Art Unit	1753
		Examiner Name	Alan D. Diamond
Attorney Docket Number	22122878-10		
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		FRBSE, et al., "Analysis of Current/Voltage Curves at n-Si/SiO ₂ /Pt Electrodes", J. Electrochem. Soc., December 1994, pp. 3375-3382, Vol. 141, No. 12, The Electrochemical Society, Inc.	
		FRBSE, et al., "Methanol Oxidation at p-Si/Pt Electrodes, Evidence for Hot Hole Reactivity", J. Phys. Chem., 1995, pp. 6074-6083, Vol. 99, American Chemical Society.	
		GADZUK, "Multiple Electron Processes in Hot-Electron Femtochemistry at Surfaces", http://www.csl.nist.gov/div837/837.03/highlite/gadzuk1999.htm .	
		FRSE, et al., "Hot Electron Reduction at Etched n-Si/Pt Thin Film Electrodes", J. Electrochem. Soc., September 1994, pp.2402-2409, Vol. 103, The Electrochemical Society Inc.	
		GAILLARD, et al., "Hot Electron Generation in Aqueous Solution at Oxide-Covered Tantalum Electrodes, Reduction of Methylpyridinium and Electrogenenerated Chemiluminescence of Ru(bpy) ₃ ²⁺ ", J. Phys. Chem., 1999, pp.667-674, Vol. 103, American Chemical Society.	
		SUNG, et al., "Demonstration of Electrochemical Generation of Solution-Phase Hot Electrons at Oxide-Covered Tantalum Electrodes by Direct Electrogenenerated Chemiluminescence", J. Phys. Chem., 1998, pp. 9797-9805, Vol. 102, American Chemical Society.	
		ZHDANOV, et al., "Substrate-mediated photoinduced chemical reactions on ultrathin metal films", Surface Science, 1999, pp. L599-L603, Vol. 432, Elsevier Science B.V.	

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		MAHAN, G. D. et al., "Multilayer thermionic refrigerator and generator," Journal of Applied Physics, Vol. 83, No. 9, 1 May 1998.	
		STIPE, B. C. et al., "Atomistic studies of O ₂ dissociation on Pt(111) induced by photons, electrons, and by heating," J. of Chem. Phys., Vol. 107 (16), October 22, 1997, pp. 6443 - 6447.	
		TRIPA, C. E. et al., "Surface-aligned reaction of photogenerated oxygen atoms with carbon monoxide targets," Nature, Vol. 398, 15 April 1999, pp. 591 - 593.	

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		BONN, M. et al., "Phonon-Versus Electron-Mediated Desorption and Oxidation of CO on Ru(0001)," Science, Vol. 285, No. 5430, Issue of 13 August 1999, pp. 1042-1045.	
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		GADZUK, J. W., "Hot-electron femtochemistry at surfaces: on the role of multiple electron processes in desorption," Chemical Physics, Vol. 251, year 2000, pp. 87-97.	
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		GAILLARD, Frederic et al., "Hot electron generation in aqueous solution at oxide-covered tantalum electrodes. Reduction of methylpyridinium and electrogenerated chemiluminescence of Ru(bpy)32+," Journal of Physical Chemistry B., Vol. 103, No. 4, January 28 1999, pp. 667-74.	
		ENGSTROM, Ulrika and RYBERG, Roger, "Comparing the vibrational properties of low-energy modes of a molecular and an atomic adsorbate: CO and O on Pt (111)," Journal Of Chemical Physics, Vol. 112, No. 4, 22 January 2000, pp. 1959-1965.	

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		Examiner Name	Alan D. Diamond
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		NOLAN, P. D. et al., "Molecularly chemisorbed intermediates to oxygen adsorption on Pt (111): A molecular beam and electron energy-loss spectroscopy study," Journal Of Chemical Physics, Vol. 111, No. 8, 22 August 1999.	
		NOLAN P. D. et al., "Direct verification of a high-translational-energy molecular precursor to oxygen dissociation on Pd(111)," Surface Science Vol. 419, pp. L107-L113, December 24, 1998.	
		OTTO, Andreas et al., "Role of atomic scale roughness in hot electron chemistry," Journal of Physical Chemistry B, Vol. 103, No. 14, April 8, 1999, pp. 2696-2701.	
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		NIENHAUS, H., "Electron-hole pair creation by reactions at metal surfaces," American Physical Society, Centennial Meeting Program, March 20-26, 1999, Atlanta, GA, Session SC33 - Metal Surfaces: Adsorbates. http://www.aps.org/meet/CENT99/BAPS/	
		NIENHAUS, H et al., "Electron-Hole Pair Creation at Ag and Cu Surfaces by Adsorption of Atomic Hydrogen and Deuterium," Physical Review Letters, Vol. 82, Issue 2, January 11, 1999, pp. 446-449.	

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First Named Inventor	Anthony C. Zuppero
Art Unit	1753
Examiner Name	Alan D. Diamond
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		Number-Kind Code ² (if known)			
		US-6,537,829	03-2003	Zarling et al.	
		US-6,444,476	09-2002	Morgan, Christopher Grant	
		US-6,399,397	06-2002	Zarling et al.	
		US-6,312,914	11-2001	Kardos et al.	
		US-6,251,687	06-2001	Buechler et al.	
		US-6,238,931	05-2001	Buechler et al.	
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		US-2003/0207331	11-2003	Wilson et al.	
		US-2003/0166307	09-2003	Zuppero et al.	
		US-2003/0100119	05-2003	Weinberg et al.	
		US-2003/0030067	02-2003	Chen, Wei	
		US-2003/0019517	01-2003	McFarland, Erick W.	
		US-2002/0121088	09-2002	Zuppero et al.	
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		US- 2002/0121088 A1	09-05-2002	Zuppero et al.	
		US-4,012,301	03-1977	Rich et al.	
		US-5,470,395	11-1995	Yater et al.	
		US-2003/0000570 A1	01-2003	Zuppero et al.	
		US-2003/0166307 A1	09-2003	Zuppero et al.	

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First Named Inventor	Anthony C. Zuppero
Art Unit	1753
Examiner Name	Alan D. Diamond
Attorney Docket Number	22122878-10

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